

~~an outline containing a moved outline point intersects another outline containing another moved outline point.~~

64. (Amended) ~~An outline forming method according to claim 62, wherein the amount of movement of outline points is restricted based on whether or not the [basic] outline point emerges from a body frame of the pattern.~~

REMARKS

Applicant has carefully reviewed the above identified application in light of the Office Action dated April 17, 1997. Claims 43-65 remain in this application. Claims 43, 44, 47, 51-55, 58 and 62-64 have been amended to define still more clearly what Applicant regards as his invention, in terms which distinguish over the art of record. The title has been amended to make it more descriptive, as required in the Office Action.

Claims 43 and 54 are the only independent claims.

Claims 43-46 and 54-57 were rejected under 35 U.S.C. § 102 as anticipated by U.S. Patent 5,398,311 (Seto). Claims 65, 47-53 and 58-64 were rejected under 35 U.S.C. § 103 as obvious from Seto either singly, or in view of U.S. Patents 4,897,638 (Kokunishi) and 5,562,350 (Sakurai).

Independent Claim 43 is directed to an outline forming apparatus comprising a storing means for storing font

data which include coordinate information indicating basic positions of outline points for forming an outline of a pattern having a predetermined weight. Also stored in the storing means is movement information, provided for each of the outline points individually, for defining a moving direction and a moving amount of each of the outline points from each of the basic positions. The apparatus also comprises an input means for inputting weight information indicating a desired weight of an outline of a pattern to be generated. The apparatus further comprises a moving means, which determines, based upon the inputted weight information and the stored movement information, a moving direction and a moving amount of each of the outline points (from each of their basic positions), and accordingly, moves the outline points. Claim 43 also recites a generating means whereby an outline of the pattern is generated based on the outline points moved by said moving means.

Thus, the apparatus as claimed in Claim 43 is capable of generating a plurality of weights of a character by using a single item of outline data by providing points on an outline with movement information for their movement in response to an inputted weight.

By virtue of using font data having the characteristics recited in Claim 43, since movement information is provided for each outline point, the direction and the amount of movement can be determined for each outline

point, and consequently, the quality of the pattern, at each level of weight (i.e., stroke thickness), is improved. Moreover, the claimed invention moves each of the outline points independently from each other according to a designated weight, and accordingly, can generate outline points corresponding to various weights from one set of font data, as shown in Figs. 5, 9 and 10.

As understood by Applicant, Seto relates to a character processing apparatus which generates outline points based on reference coordinates (R_x , R_y) and relative distance data (F_x , F_y) which are stored in a memory as shown in Fig. 2B. The relative distance data indicate relative distances from the reference coordinates. When Seto performs enlargement/reduction of a character, the relative distances from the reference coordinates are determined in accordance with designated enlargement/reduction rate and the relative distance data.

The Examiner apparently considers that the relative distance data (F_x , F_y) correspond to the movement information of the claimed invention. However, the relative distance data of an outline point indicate a moving direction and a moving distance from another outline point where the latter point has only a reference coordinate data attribute. The ratio of thickness of one stroke to another stroke is kept constant. That is, Seto can not change the ratio of thickness of strokes. Seto merely attempts to minimize the

adverse consequences to stroke thickness while doing a character enlargement/reduction: "the relation of thickness of this horizontal or vertical line is enlarged or reduced so as to be equal to the relation of thickness in reference character data" (column 3, lines 31-34).

By contrast, the movement information of an outline point of the claimed invention indicates moving an amount and a distance from a basic position of the outline point. Accordingly, the claimed invention can flexibly change ratios of thickness of one stroke relative to another stroke.

Accordingly, Seto fails to teach or suggest attaching movement information to an outline point, which indicates a moving amount and a moving distance of the outline point from its basic position. Accordingly, Seto can not achieve the above described advantages of the claimed invention.

Moreover, Claim 43 recites an input means for inputting a desired weight (or stroke thickness) of an outline pattern. Clearly, Seto's invention lacks this feature as it relates to enlargement/reduction and any weight adjustments are made tangentially to this operation -- not as the result of a specific weight input.

For at least these reasons, Claim 43 is deemed patentable over Seto.

Independent Claim 54 is a method claim corresponding to apparatus Claim 43, and therefore is

believed to be patentably distinct from the cited prior art for the same reasons as Claim 43.

A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as a reference against the independent claims herein. In particular, Kokunishi relates to a method of generating character patterns where outline pattern data are generated based on skeleton pattern data and stroke thickness data. Kokunishi merely teaches generating outline points from skeleton points, and there is no moving of outline points. Accordingly, Kokunishi fails to teach or suggest storing movement information, provided for each of the outline points, for defining a moving direction and a moving amount of each of the outline points. Sakurai discloses an apparatus that selects a vector font based on character size. Sakurai merely teaches changing font type to be used when designated size is not within an effective size range of the presently used font. Accordingly, Sakurai also fails to teach or suggest the movement information of the claimed invention. Consequently, independent Claims 43 and 54 are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or the other of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to

define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 758-2400 or by facsimile at (212) 758-2982. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



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